

Serial No. 09/651,783

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IN THE CLAIMS

Claims 1-2 (Canceled)

3. (Currently Amended) A method of treating perfluorocompound (PFC) gas comprising the steps of:  
decomposing at least one of  $\text{SF}_6$  and  $\text{NF}_3$  present in the PFC gas by any method selected from the group consisting of hydrolysis, oxidation decomposition, combustion, and thermal decomposition,

washing the gas generated by said decomposition by making said gas contact with at least one of water and an aqueous alkaline solution,

removing mist in waste gas resulting from the washing to remove PFC decomposition products accompanied with the mist,  
and

exhausting the washed gas from which the mist has been removed in the removing step, wherein

said step of exhausting the washed gas removing mist is performed after removing to remove at least one of  $\text{SO}_x$  and  $\text{NO}_x$  accompanying water, which are decomposition products of said at least one of  $\text{SF}_6$  and  $\text{NF}_3$ , from said washed gas.

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4. (Currently Amended) A method of treating perfluorocompound (PFC) gas comprising the steps of:

decomposing at least one of  $\text{SF}_6$  and  $\text{NF}_3$  present in the PFC gas by diluting said at least one of  $\text{SF}_6$  and  $\text{NF}_3$  with nitrogen, and contacting the diluted gas with a decomposition catalyst in the presence of air and water,

washing the gas generated by said decomposition by making said gas contact with at least one of water and an aqueous alkaline solution,

removing mist in waste gas resulting from the washing to remove PFC decomposition products accompanied with the mist,  
and

exhausting the washed gas from which the mist has been removed in the removing step, wherein

said step of exhausting the washed gas removing mist is performed after removing to remove at least one of  $\text{SO}_x$  and  $\text{NO}_x$  accompanying water, which are decomposition products of said at least one of  $\text{SF}_6$  and  $\text{NF}_3$ , from said washed gas.

Claims 5-10 (Canceled)

11. (Previously Presented) A method of treating perfluorocompound (PFC) gas comprising the steps of:

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decomposing a PFC gas which contains at least one of  $\text{SF}_6$  and  $\text{NF}_3$  by any method selected from the group consisting of hydrolysis, oxidation decomposition, combustion, and thermal decomposition,

washing the decomposed gas, which contains PFC decomposition products including HF and at least one of  $\text{SO}_x$  and  $\text{NO}_x$  generated by said decomposition, by making said decomposed gas contact with at least one of water and an aqueous alkaline solution to make the PFC decomposition products be absorbed therein, and

exhausting waste gas resulting from the washing, wherein said step of exhausting the waste gas resulting from the washing is performed after removing mist in the waste gas for removing the PFC decomposition products accompanied with the mist.

12. (Previously Presented) A method of treating perfluorocompound (PFC) gas according to claim 11, wherein said decomposition of the PFC gas is performed by hydrolysis, including contacting the PFC gas with a decomposition catalyst in the presence of air and water.

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13. (Previously Presented) A method of treating perfluorocompound (PFC) gas comprising the sequential steps of:

decomposing at least one of  $\text{SF}_6$  and  $\text{NF}_3$  present in the PFC gas by any method selected from the group consisting of hydrolysis, oxidation decomposition, combustion, and thermal decomposition;

washing the gas generated by said decomposition with water;

removing mist from the exhaust of said water-washed gas by a cyclone; and

exhausting the gas of said mist-removed gas of said water-washed gas outside the treating system.

14. (Previously Presented) A method of treating perfluorocompound (PFC) gas according to claim 13, wherein said removed mist is collected and retained in a tank as an HF-containing wastewater before discharging outside the treatment system.

15. (Previously Presented) A method of treating perfluorocompound (PFC) gas according to claim 13, wherein the velocity of said exhaust of said water-washed gas at the inlet

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of said cyclone is from 10 meters per second to 30 meters per second.

16. (Currently Amended) A method of treating perfluorocompound (PFC) gas according to claim 13, wherein said cyclone comprises any material selected from the group consisting of ~~polyvinyl~~ a vinyl chloride and ~~acrylic~~ an acrylate resin.

17. (New) A method of treating perfluorocompound (PFC) gas, wherein at least one of  $\text{SF}_6$  and  $\text{NF}_3$  in said PFC gas is decomposed, comprising the steps of:

a PFC decomposing process, including decomposing the PFC gas by contacting the  $\text{SF}_6$  and  $\text{NF}_3$  with a decomposition catalyst in the presence of nitrogen-diluted air and water,

a toxic component decomposing process, including decomposing a toxic component produced in the PFC decomposing process by a toxic component decomposition catalyst,

a washing process, including washing the gas produced in said toxic component decomposition process by contacting the generated gas with at least one of water and alkaline aqueous solution, and

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a mist removal process, including removing a mist  
involved in the gas processed by said washing process.

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